(No Model.)

J. P. NOYES & T. J. WINANS.

BUTTON.

No. 323,358. Patented July 28, 1885.

Fig. 1.

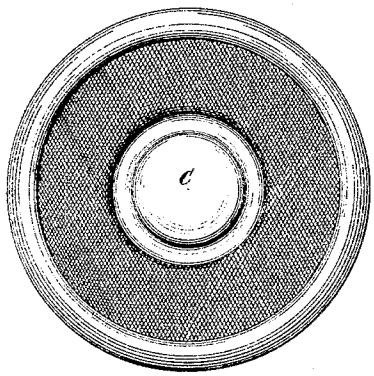


Fig. 2.

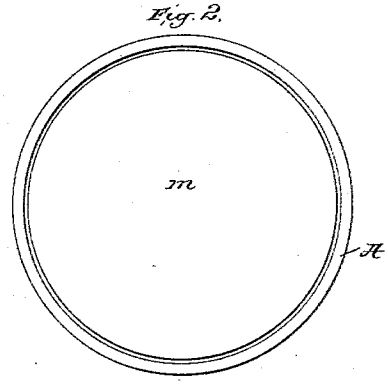


Fig. 3.

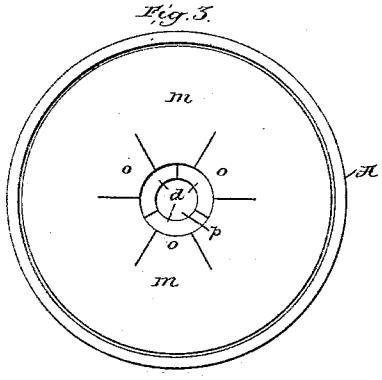


Fig. 4.

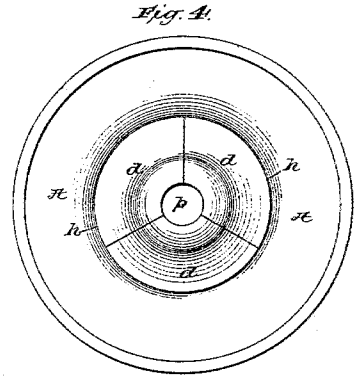


Fig. 5.

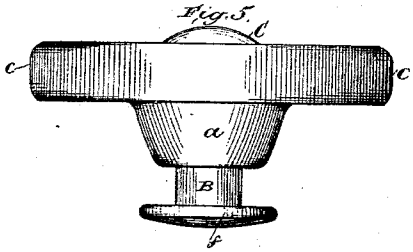


Fig. 6.

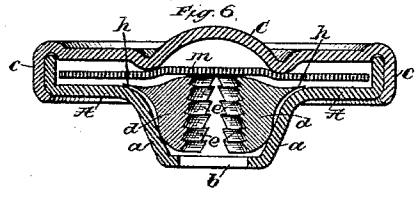


Fig. 7.

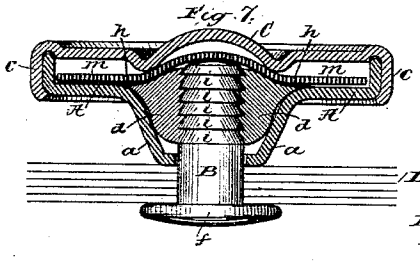


Fig. 8.

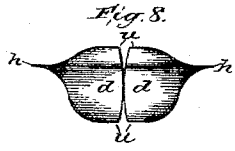
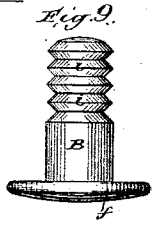


Fig. 9.



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Attys

UNITED STATES PATENT OFFICE.

JOSEPH P. NOYES AND THOMAS J. WINANS, OF BINGHAMTON, NEW YORK, ASSIGNORS TO JOSEPH P. NOYES & CO., OF SAME PLACE.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 323,358, dated July 28, 1885.

Application filed May 14, 1885. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH P. NOYES and THOMAS J. WINANS, citizens of the United States, residing at Binghamton, county of Broome, State of New York, have invented certain new and useful Improvements in Buttons, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates, generally, to that class of buttons which are adapted to be fastened to the garment by means of a metallic pin or shank which passes through the fabric and enters the head or body of the button, as distinguished from those which are adapted to be attached by thread passing through the fabric and an eye or eyes in or on the button. In the buttons of this class as commonly constructed the fastening pin or shank has been secured in the head or body either by being clinched or by engaging with holding-jaws with which the head was provided.

The present invention relates particularly to this latter class of buttons; and it consists in certain improvements in the construction of the holding-jaws, and in certain combinations of said jaws with other parts, which will now be particularly described and explained in connection with the accompanying drawings, in which—

Figure 1 is a plan or top view of the complete button. Fig. 2 is a similar view with the cover removed. Fig. 3 is a like view illustrating a modification in the disk for keeping the holding-jaws in position. Fig. 4 is a similar view showing both the cover and the disk removed. Fig. 5 is a side view of the complete button with the shank inserted. Fig. 6 is a cross-section of the button-head or body before the shank is inserted. Fig. 7 is a like view showing the shank inserted. Fig. 8 is a side view of the holding-jaws removed from their seat in the button-head; and Fig. 9 illustrates a modification in the form of the shank, which will be hereinafter referred to.

Referring to said figures, it is to be understood that the back A of the head or body of the button is made of metal or other suitable stiff material, and is of substantially the usual form. It is provided at its center with a depression, *a*, which forms a seat for the holding-jaws, and the bottom of this depression is provided with the usual opening, *b*, for the reception of the attaching stem or shank B. The top or cover C of the head is made of metal or cloth, or of any of the materials or combinations of materials commonly used for such purposes, and is secured to the back A by means of the inwardly-bent flange *c*, or in any other convenient or suitable manner. The head or body thus constructed, instead of being provided with spring-jaws to engage with the shank B, as in the ordinary constructions, is provided with holding-jaws, which consist of two or more tapering or wedge-shaped blocks, *d*, which are seated loosely in the depression *a* of the back, and are provided upon their inner faces with abrupt or sharp teeth *e*. The outer sides of the blocks *d* are curved, so as to conform approximately to the shape of the depression *a*, and so that the several blocks when assembled form substantially a longitudinally-divided cone having a central opening, *p*, for the reception of the shank. The blocks *d* are provided near their upper ends with slight fins or projections *h*, which, when the blocks are in position in the button-head, rest upon the shoulder around the edge of the depression *a*. By this means the upper ends of the blocks *d*, forming the holding-jaws, are thrown inward toward each other, and their lower ends drawn apart or separated, as shown in Fig. 6, so that the end of the shank B can be readily entered between them in the operation of attaching the button. The sides *u* of the blocks *d* are also, as will be seen by reference to Fig. 8, slightly curved, so that the jaws, as they are moved upward in the depression *a*, will rock against each other, and thus readily accommodate themselves to the different positions which they are caused to take.

The form shown for the jaws *d* has been found in practice to produce the most satisfactory results; but this form may be varied considerably without departing from the invention. The fins or projections *h* may be omitted, and the sides *u* may be made straight.

The blocks *d*, forming the retaining-jaws, are of such length that a small space is left between their upper ends and the cover C, and

this space is sufficient to allow the jaws to rise and separate when the shank is inserted, as will be presently explained. The space between the tops of the jaws *d* and the cover C will not usually be sufficient to permit the jaws to turn and become displaced after they have been placed in position and the cover placed upon the back. It is preferable, however, that means should be provided by which the jaws will be prevented from rattling or shifting their position to any extent until the shank is inserted. For this purpose a plain disk, *m*, preferably of paper or thin pasteboard, is interposed between the cover and back, so as to rest upon the tops of the jaws and hold them in their proper position in the depression *a*. As just stated, this disk *m* is not absolutely essential, and it may be omitted without departing from the invention.

The disk *m*, if one is used, may be composed of paper, pasteboard, cloth, leather, or other similar material, or it may be composed of very thin sheet metal. In some cases it may be in the form of an annulus, as shown in Fig. 3, and be slit, so as to provide spring-arms *o*, which rest upon the tops of the jaws *d*. The shank B will preferably be solid, as shown in the present case, though in some cases it may be hollow or of tubular form. It is provided upon its outer end with a head, *f*, to prevent it from being drawn through the fabric and upon its inner end with a number of teeth, *i*, corresponding to the teeth *e* upon the jaws *d*, but cut in the reverse direction, as shown in Fig. 7.

Although the teeth upon the shank will preferably be of the ratchet form shown in said figure, they may be of other forms—such, for example, as that shown in Fig. 9—without departing from the invention; or, if the jaws *d* are made of steel or other hard metal and the shank of soft metal, the shank need not be provided with any teeth, as the teeth of the jaws will cut into the shank, so as to hold it.

The manner of applying the button thus constructed is as follows: The shank B will be passed through the fabric D, as shown in Fig. 7, and its end inserted through the opening *b*, and entered between the spread lower ends of the jaws *d*. As the end of the shank is forced farther inward, it will operate to raise the jaws against the resistance of the disk *m*, and at the same time force their upper ends apart and throw their lower ends inward toward each other and against the shank, and this will continue until the shank has been forced inward to the proper point, as shown in Fig. 7. After the parts are in this position, any strain upon the shank tending to draw it out of the head will cause the teeth *e* to engage with the teeth *i*, and this will in turn cause the jaws *d* to wedge in between the shank and the sides of the depression *a*, and thus prevent the withdrawal of the shank. The jaws *d* and shank B will usually be made of some metal which is comparatively soft, so that the shank can be forced inward between the jaws, even if the latter should be so imperfectly formed as not to be capable of separating sufficiently to admit the shank freely. As shown in the present case, there are three of the holding-jaws *d*, and this is the preferred number; but the number of the jaws may be more or less than three without departing from the invention.

What we claim is—

1. A button head or body provided with loose retaining-jaws, which are arranged to separate as the shank is introduced, but to wedge against the shank to prevent its withdrawal, substantially as described.

2. A button head or body provided with the depression *a*, in which are located the loose retaining-jaws *d*, which are arranged to separate as the shank is introduced, but to wedge against the shank to prevent its withdrawal, substantially as described.

3. A button head or body provided with the depression *a*, in which are located the loose retaining-jaws *d*, and the disk *m*, for holding said jaws in position, substantially as described.

4. A button head or body provided with the depression *a*, in which are located the retaining-jaws *d*, having the projections *h*, substantially as described.

5. The combination, with the head or body having the depression *a* and loose retaining-jaws *d*, of the shank B, arranged to be engaged by the jaws, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

JOSEPH P. NOYES.
THOMAS J. WINANS.

Witnesses:
NERI PINE,
ADA L. PINE.